

Apple-Works Forum

The Monthly Publication of **NAUG: The National AppleWorks Users Group**

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Support for AppleWorks and ///EZ Pieces Users

Memory Conflicts

Dear Cathleen,

I recently learned about a memory conflict between AmperMacros (from Office Productivity Software) and TotalControl (from JEM Software). Please warn your members not to use these two enhancements on the same copy of AppleWorks.

Douglas Gum
Office Productivity Software
Box 1042
Mahomet, Illinois 61853

[Ed: It is unfortunate, but there are limits to how much you can add to AppleWorks. As a result, users must often choose between AppleWorks enhancements. NAUG is compiling a list of known incompatibilities; please notify us of any conflicts you discover so we can publish a comprehensive list.]

Here is a brief description of AmperMacros and TotalControl to help you choose between these two products:

AmperMacros adds twenty commands to AppleWorks. These commands perform floating-point arithmetic, Boolean algebra, calculated go-to's, nestable loops, special cell/store commands for macros that work with data base files and more. The disk-based manual describes how machine language programmers can use UltraMacros' ampersand hook to develop new commands. AmperMacros requires AppleWorks 3.0 and UltraMacros 3.1 and costs \$25 postpaid from Office Productivity Software.

TotalControl gives AppleWorks many of the features usually found only in dedicated data base programs. For example, TotalControl lets you define text-only and numbers-only categories, lets you define the minimum and maximum length of any category entry, and lets you define a "mask"

The **National AppleWorks Users Group (NAUG)** is an association that supports AppleWorks users. NAUG provides technical support and information about AppleWorks and enhancements to that program. Our primary means of communicating with members is through the monthly newsletter entitled the **AppleWorks Forum**.

that automatically formats all entries in a category. Glossary categories let you select entries from a list you define. Export and import categories incorporate data from another file. TotalControl lets you define calculated categories that contain computed values using more than 30 logical and mathematical functions, including functions for date arithmetic, rounding, and averaging.

TotalControl 2.0 costs \$60 plus \$3 s/h from JEM Software, 7578 Lamar Court, Arvada, Colorado 80003. Orders only: (303) 422-4856. Until February 15, NAUG members who buy TotalControl can get DoubleData (an enhancement that lets you create up to 60 categories in any AppleWorks data base) for only \$20 (list price \$40).]

Problem with Apple IIe Clocks

Dear NAUG:

Did you know that because of its location near the International Date Line, New Zealand is the first country in the world to welcome in the new year? So I decided to spend the last moments of 1991 watching the clock on my Applied Engineering clock card-enhanced Apple IIe change from 23.59 on December 31 to the new year. The minutes changed as they should, but to my horror, the year changed not to 1992 but to 1986!

I've tried everything to reset the date without luck. What is going wrong?

Leo Taillie
Paihia, Bay of Islands
New Zealand

[Ed: Leo, you were one of hundreds of NAUG members who got this surprise as a new year's gift. Fortunately, your clock is working fine; the problem is with ProDOS.]

ProDOS stores six years of date references in a table. Every seven years, owners of Apple IIe, II+, and IIc computers equipped with slot-based clock cards must reset that date table within ProDOS. Otherwise, ProDOS refers back to the first year in the table, which, as you probably guessed, is 1986.

Letters to NAUG...

Apple recently released a BASIC program that patches ProDOS 1.9 so it handles dates correctly on slot-based cards. NAUG members can download the file *CLOCKFIX.BXY* from Library 7 on the NAUG BBS, unpack the file with *Shrink-It*, launch BASIC, and use the program to patch their copy of ProDOS.

Alternatively, members can order the "Patched ProDOS Disk" from the NAUG Public Domain Library (\$4 for a 5.25-inch disk; \$6 for a 3.5-inch disk, plus \$2 s/h per order). This disk contains a copy of ProDOS 1.9 patched to accommodate dates in 1992. Once you get the disk, you use a file copy program such as the Apple Utilities, *FileMaster*, or *Copy II+* to copy the patched version of ProDOS onto your hard drive or onto all your boot disks.

The soon-to-be-released ProDOS 2.0 will also fix this problem. If you can wait, you can order the "Apple II ProDOS/BASIC Disk" that will include ProDOS 2.0 and a new version of BASIC. NAUG will ship the "Apple II ProDOS/BASIC Disk" immediately upon the release of GS/OS 6.0 by Apple. See page 9 of last month's issue of the *AppleWorks Forum* for additional information about this disk.

Apple IIGS computers and clocks that use their own driver (e.g., the clock option for Applied Engineering's Z-RAM Ultra card for Apple IIc systems) use a different approach to determining the date and do not have this problem with ProDOS.]

Better Printing from AppleWorks GS

Dear NAUG:

Can you help me solve two problems when printing from AppleWorks GS on my ImageWriter:

First, although my output matches the size and shape of the characters that appear on the screen, every font prints larger and taller than I expect. How can I get the printouts to match the sizes I want when I use a font?

Second, why are my word processor printouts clearer than my page layout printouts?

Sally Sober
Fort Lauderdale, Florida

[Ed: Your large and distorted output from the AWGS word processor is probably caused by printing with AWGS' "Vertical Condense" option turned off. Go to the Page Setup Menu and change that setting to "On". Here are samples of AWGS word processor output in 12-point Times with vertical condense turned on and off:

This is a sample of printing with
vertical condense turned on.

This is a sample of printing with
vertical condense turned off.

Your less-than-ideal page layout output is probably caused by accepting the default settings on the AWGS page layout Print Menu. As you probably discovered, there are some inconsistencies in AWGS' default settings. When you print from the word processor, AWGS automatically prints in Best mode; when you print from the page layout module, AWGS defaults to Standard mode. You will get excellent output if you change the page layout module setting in AWGS to "Best".]

AppleWorks Forum

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AppleWorks for the Visually Impaired

by Garry Griffith

AppleWorks is easy to learn and use because of its logical structure, mnemonic commands, and rich use of on-screen prompts. But can you imagine the problems you would experience if you could not see the AppleWorks screen?

Visually impaired computer users who know about the power and simplicity of AppleWorks want to be able to use the program with the same ease and speed enjoyed by sighted users. But, like most programs, AppleWorks is visually oriented and presents a difficult set of obstacles to the visually impaired.

This article describes a system that adds voice output to AppleWorks. Once you install the necessary hardware and software, your computer will sound out the contents of the AppleWorks screen; that makes AppleWorks usable to the blind and visually impaired.

The hardware consists of either RC System's Slotbuster II card equipped with a speech synthesizer chip (\$190), or the company's DoubleTalk speech synthesizer card (\$250). Both of these cards send their output either to the built-in speaker in your computer or to one or more external speakers or headphones that you buy separately. You install either card in a peripheral slot in an Apple II+, IIe, IIGS, or Laser 128 computer.

The software consists of RC System's program called the AppleWorks Companion (not to be confused with Beagle Bros' AW 3.0 Companion and Companion Plus programs) which adds voice output to AppleWorks. AppleWorks Companion costs \$49.95.

Once you install the necessary hardware and software, your computer offers two modes of operation: "Keying" and "Review". Keying Mode sounds out what you type and is valuable for data base and particularly spreadsheet operations. (Fast typists will turn off this feature when using AppleWorks' word processor; hearing each letter can be annoying when you concentrate on what you want to type.)

Review Mode reads what appears on the AppleWorks screen.

Installing the System

Installing the system is easy; you insert the Slotbuster II or DoubleTalk card in your computer and connect the recommended external speakers and

necessary cables. Then you use the AppleWorks Companion to enhance AppleWorks 2.0, 2.1, or 3.0 so the program can talk.

This is a one-time process that is similar to installing TimeOut or the AW3 Expander in AppleWorks. Once installed, you can put the Companion disk away; your copy of AppleWorks will

now automatically provide voice output when you launch the program.

The Companion-enhanced copy of AppleWorks offers all the features of standard AppleWorks and does not affect the amount of desktop space available on your system. The program is compatible with Applied Engineering's AW3 Expander and with all the Beagle Bros' TimeOut enhancements except TimeOut UltraMacros.

"This system opens up AppleWorks to the blind and visually impaired."

How to Choose Your Interface Card

Choosing between RC System's DoubleTalk and Slotbuster II speech synthesizer cards can be difficult.

The DoubleTalk card (\$250) produces a soft, friendly male voice that inserts the correct intonations in most words and sentences, making it easy to understand the spoken words. Although I am sighted, I used the DoubleTalk to proofread this article; it was like having a professional reader in the room who spoke with a slight accent.

The DoubleTalk simulates a printer port, so you can read the output from most documents by "printing" the file to the DoubleTalk card. I tested this capability with an Infocom game; the card spoke all output from the program. According to RC Systems, the DoubleTalk also emulates the Echo synthesizer and will run any programs written for the Echo; however, I did not test the cards' Echo emulation capability.

The Slotbuster II (\$190) is a multi-function card that replaces up to eight cards in your Apple IIe or IIgs. You can equip the card with any combination of the following options: Centronics parallel printer port (\$19.95), RS-232 serial printer port (\$14.95), modem port (\$29.95), speech synthesizer (\$39.95), BSR port (\$29.95), Clock/calendar (\$39.95), 32K print buffer (\$29.95), 64K print buffer (\$59.95).

Speech output from the Slotbuster is satisfactory; it produces better output than my original Echo IIB voice output system, but does not produce the exceptional quality speech generated by the DoubleTalk. However, the optional ports on the Slotbuster can add significant flexibility to your system. For example, the print buffer lets you print one document while you edit another. The dual printer ports used in combination with the print buffer lets you use

two printers simultaneously and independently.

The BSR port on the Slotbuster offers remote control of lights and appliances when used with a BSR X-10 controller.

However, the Slotbuster is incompatible with AppleWorks GS, which produces a message indicating that the printer is not connected. To use AppleWorks GS, you must access the control panel, change slot 1 from "Your Card" to "Printer Port", turn off the computer, and reboot your system.

The Slotbuster is ideal for users who want to add speech capability and other features to their system or for users who do not have a free slot in their computer. Otherwise, I recommend the DoubleTalk. *[Ed: RC Systems invites interested persons to call the company and hear the output from each system over the telephone.]*

Using the System

My Companion-modified copy of AppleWorks was easy to use and understand. The Companion automatically sounds out each key that you type (although you can turn off this feature) and most of the output that appears on the AppleWorks screen. For example, when you issue an Apple-M command, the Companion says: "Apple-M". When using the Apple-Arrow Key, the Companion says each word passed over by the cursor. And the Companion sounds out each character you delete when you press the Delete Key.

When you invoke an Open-Apple Command, the AppleWorks Companion speaks in a higher pitch when it sounds out the items on the command line. That indicates that the item is highlighted.

It takes a while to get used to the "dialect" produced by any talking program, although the Com-

panion does better than most. The Companion always pronounces "ea" with the sound "eh", as in the words "bread", "dead", and "spread". It says the words "knead" and "read" with the same "eh" sound, and even though the word "read" is spelled the same in present, past, and future tenses, the Companion always sounds it in the past tense. (Of course this problem affects all programs for the blind and is the result of the many exceptions to the rules in the English language.) Despite these problems, RC Systems claims that the Companion pronounces almost 90% of the common English words accurately. My experience supports that claim.

The Companion lets you control the speed at which it reads text. You will initially use this command to slow down the system as you get used to the Companion's dialect. Soon you will find yourself increasing that speed and reducing the time delay between words.

AppleWorks Add-Ons...

The Word Processor

When you run the AppleWorks word processor, the Companion lets you control which punctuation marks are spoken and which are not. In the "most" setting, the Companion speaks characters such as periods, commas, and quotes. "Some" punctuation, the Companion's normal setting, filters out all punctuation except certain special characters. The "no" setting prevents the Companion from voicing any punctuation.

The Companion speaks out each line when you use the Arrow Keys to move up or down a line. All the usual Open-Apple commands such as Apple-C, Apple-D, and Apple-M work as they do in unmodified copies of AppleWorks. However, the Companion disables some of the new Control Key commands available in AppleWorks 3.0 because it uses those key combinations to operate some of its speech settings. For example, Companion-enhanced copies of AppleWorks use the Control-C command to speak a line of text instead of issuing a centering command.

It is easy to use AppleWorks 3.0's spelling dictionary with the Companion; the program sounds out the misspelled word and then the command line "Replace, Ignore", and so forth. Blind users will find it easy to understand what to do next.

Although Companion-enhanced copies of AppleWorks are not compatible with TimeOut Ultra-Macros, the Companion automatically installs 39 of its own macros in AppleWorks to give the blind user even more flexibility. For example, Solid-Apple-B moves the cursor to the beginning of the current paragraph, Solid-Apple-D deletes a line, and Solid-Apple-U undeletes that same line. Other Solid-Apple commands jump the cursor to the end of a paragraph or sentence, create a new word processor document, save or remove a file, and print the current time or date anywhere in a document. Companion-enhanced copies of AppleWorks also let you create up to 20 user-defined macros.

The Data Base

In general, a blind user will have no difficulty using a Companion-enhanced copy of AppleWorks to navigate through records in the data base module. However, the Companion does not sound out the

AppleWorks Books on Tape

Blind AppleWorks users can get the *AppleWorks Reference Manual* and Elna Tyne's *Mastering AppleWorks* on tape from Recordings for the Blind. All tapes in the library are free after you pay a \$25 registration fee. Contact Recordings for the Blind at (800) 221-4792.

current category when you insert new records unless you issue a Control-C command. I found this a minor inconvenience to which I quickly adapted.

Setting up multiple record layout screens and reports is difficult; there is no voice output to help the blind user adjust column widths, nor does the Companion sound out the category names on the multiple layout or report format screens. Thus, assistance from a sighted user is necessary when setting up a report. However, once they established the report format, blind users will have no difficulty printing a report.

The Spreadsheet

The spreadsheet is the most difficult of the three AppleWorks modules for the voice software programmer. Some cells contain words or labels, and the labels often overlap adjacent cells. Other cells contain numbers you entered from the keyboard, while still other cells contain formulas that produce numeric values on the screen.

The Companion reads the contents of a cell by sounding out the command line at the bottom of the screen. It reads numeric entries either digit-by-digit or as complete numbers. For example, it reads "1234" as "one thousand two hundred thirty four" in Numbers Mode, or "one-two-three-four" in Digits Mode. A dollar sign in front of numbers tells the Companion to speak the string of text in dollars and cents.

A keystroke command tells the Companion to read all the cells in the current row; you can use this feature to read long labels that overlap multiple cells. However, not all translations are perfect. For example, the Companion reads a spreadsheet cell containing "N.E." as "Northeast".

The Companion offers a number of commands to help blind users "visualize" the spreadsheet screen. For example, the Control-C command instructs the

AppleWorks Add-Ons...

Companion to say the formula in a cell rather than the value. A Control-N tells the program to read the value, not the formula. Issuing a Control-P tells the Companion to read a spreadsheet row; Control-O reads a column.

I found it easy to use the Companion when working with simple spreadsheet models. However, despite the controls available in the program, it was difficult to "visualize" a more complex, large spreadsheet.

Other Details

The AppleWorks Companion comes with a clearly written 26-page manual that gives step-by-step directions that describe how to install and use the program. The Companion disk also includes a complete copy of the manual in an AppleWorks word processor file, so blind user can access the file as a voice output document after they install the hardware and software.

Since the installation is so easy, most of the manual is dedicated to explaining the new commands. The manual also includes a useful summary of the 30 speech commands, 14 review commands, and 39 new Solid-Apple commands.

Technical support from RC Systems was excellent. Although you pay for the call, the telephone support is free. Randy Carlstrom (the "RC" in the company name) answers the phone and provides knowledgeable answers to your questions. In one instance the company followed up by calling me a few days later to make certain I had resolved a problem I experienced with the software.

Conclusion

The RC Systems equipment and software is an excellent enhancement that opens up the AppleWorks environment to blind and visually impaired users. This hardware and software system can also provide libraries and other service agencies an inexpensive way to offer enhanced support to their user community.

[Gary Griffith is an Information and Referral Specialist at the United Way of the Midlands in Omaha, Nebraska.]

[RC Systems, 121 W. Winesap Road, Bothell, Washington 98012. Voice/Fax: (206) 672-6909.]

Special Offer

NAUG Discount from ISTE

The International Society of Technology in Education (ISTE), a large non-profit organization of computer-using educators, publishes periodicals, newsletters, books and courseware, and independent study courses.

ISTE members receive the *ISTE Update* newsletter and their choice of *The Computing Teacher*, the *Journal of Research on Computing in Education*, or the *Education IRM Quarterly*. Members also receive discounts on other ISTE publications and products.

A one-year ISTE membership usually costs \$46, however, until May 1, NAUG members can join ISTE for \$39.10. Contact ISTE for complete information about the organization and membership benefits.

[ISTE, 1787 Agate Street, Eugene, Oregon 97403; (503) 346-4414; Fax: (503) 346-5890.]

LockOut 2.0

!

W

E

N

Tired of resetting Control Panels after students leave class?? READ THIS!

LockOut has been upgraded to include automatic installation on file servers, hard disks, GS/OS floppies, and ProDos-8 floppies. It also features a printed, informative, and fun to read 40 paged manual. Hundreds of teachers in the US and Canada are using Lockout to save themselves hours of drudgery every week, by preventing students from changing the Control Panel settings on their IIGS computers. Priced at \$49.95 for manual and two 800k floppies, including site-license for all computers in a single building, postage included. Current owners may upgrade for \$24.95. Money back guarantee.

SuperStuff
3382 Sandra Drive
Kalamazoo, Michigan 49004

How to Personalize Address Labels

by Ginny Timmerman

Maintaining a name and address file is a popular application for AppleWorks' data base module.

To get maximum flexibility from your data file, you should design your records with separate categories to store each individual's first name, last name, and "Title". That lets you print personalized address labels and mail merge letters.

Then the first line of your address label format should look like this:

TITLE <FIRSTNAME <LASTNAME

When you enter data for each record, you should think of what will print in each category on the label. For example, although the "Title" category will contain a "title" for some people, the entry will have nothing to do with a person's real "title" for most records. Examine *Figure 1* to see the relationship between what you type in the "Title" category in a record and what prints on the corresponding label.

You can take this process a step further by creating a "Dear" category in each record. Then enter the text you want to print after the word "Dear..." in each mail merge letter. Include the correct punctuation mark at the end of the text; that lets you insert commas for friends and relatives and the more formal colon for business associates. See *Figure 1* to get some ideas of what you should type in the Dear category.

As you can see from the examples in *Figure 1*, the separate First Name, Last Name, Title, and Dear categories let you prepare highly personalized name and address labels and mail merged letters.

[Ginny Timmerman, a Senior System Analyst with NYNEX, uses AppleWorks for her personal correspondence and to maintain data files for her home and family. She also helps her husband Rick, who uses AppleWorks to manage a local plumbing company.]

Figure 1: Data Entry and Sample Output

Categories and Data Entry	TITLE <FIRSTNAME <LASTNAME	Salutation in letter prints as
Firstname: John Lastname: Smith Title: Suzy Jones & Dear: Suzy and John,	Suzy Jones & John Smith	Dear Suzy and John,
Firstname: James Lastname: Doe Title: Friar Dear: Friar James:	Friar James Doe	Dear Friar James:
Firstname: Adam Lastname: Black Title: Reverend & Mrs. Dear: Reverend & Mrs. Black:	Reverend & Mrs. Adam Black	Dear Reverend & Mrs. Black:
Firstname: Oscar Lastname: Greene Title: Mr. and Mrs. Dear: Aunt Sue and Uncle Oscar,	Mr. and Mrs. Oscar Greene	Dear Aunt Sue and Uncle Oscar,

A Spreadsheet "Pop-Up" Calculator

by Stan Hecker

I have children in elementary, middle, and high school this year, so I field homework questions almost every evening. With AppleWorks available, it seems silly to keep a pocket calculator on hand just to answer an occasional arithmetic question.

Since I don't own any of the AppleWorks enhancements that offer a pop-up calculator (for example, TimeOut DeskTools), I use this month's template (see *Figure 1*). This is an enhanced version of an AppleWorks calculator originally developed by Jim Carlisle and posted in the AppleWorks RoundTable on GENie. I load the file onto my desktop each time I launch AppleWorks.

Although you don't need a template to use AppleWorks' spreadsheet module as a calculator [Ed: See the article entitled "How to Use AppleWorks' Built-In Pop-Up Calculator" in the January 1987 issue of the *AppleWorks Forum*.], this month's template makes it easy to do routine and not-so-routine calculations in AppleWorks.

Of course, this template does not offer all the features built into a full-function calculator. For example, the template cannot accumulate sums, products, and other results in a memory register.

I will assume that you know the basic spreadsheet operations. If you never developed a spreadsheet, I suggest you read the booklet entitled "How to Get Started with the Spreadsheet Module" available from NAUG (\$7.50 plus \$1.50 s/h).

Figure 1: The Pop-Up Calculator

File: Calculator				REVIEW/ADD/CHANGE				Escape: Main Menu			
=====A=====B=C====D=====E=====F=====G=====H=I=J=====K=====L=M==N=====O=====P=====Q=====R											
1	AppleWorks Multi-Function Calculator Desktop Accessory										
2											
3	(See the instructions that start in row 20.)										
4											
5	Enter a		Enter a		Answer is		Enter a		Enter a		Answer
6	# below		# below		here		# below		# below		is here
7											
8											
9	40	+		100=	140		125	% of	150=	187.5	
10											
11							Diameter				Circum.
12	100	-		40=	60		3	X	Pi	=	9.424778
13											
14							Buy Price	Days	Sold For	Rate/Rtn	
15	11.1	X		33=	366.3		100	189	115=	30.98474	
16											
17							Angle in				Sine is
18	44	/		11=	4		Degrees	----->	45=	.7071068	

A18: (Protect-N) 44											
Type entry or use ⌘ commands											
120K Avail.											

Getting Started

1. Start by creating a new AppleWorks spreadsheet called "Calculator". Save it frequently as you work. [Ed: A working copy of the Calculator template appears on this month's issue of *NAUG on Disk*.]
2. Now you will establish the correct widths for each column. Use the Apple-L command to make column I three characters wide, columns C and M four characters wide, and columns B, D, F, H, J, L, N, P, and R one character wide.
3. Put the cursor in cell A1. If all went well, both column A and column R should be visible on the AppleWorks display. Narrow or widen column I so columns A and R appear at the left and right edges of the screen respectively.

Figure 2: Completed Set of Boxes

File: Calculator				REVIEW/ADD/CHANGE				Escape: Main Menu			
=====A=====B=C=D=====E=====F=====G=====H=I=J=====K=====L=M=N=====O=====P=====Q=====R											
1											
2											
3											
4											
5	Enter a			Enter a		Answer is					
6	# below			# below		here					
7											
8											
9						=					
10											
11											
12						=					
13											
14											
15						=					
16											
17											
18						=					

A2
Type entry or use ⌘ commands

130K Avail.

Figure 3: Second Boxes Copied

File: Calculator				REVIEW/ADD/CHANGE				Escape: Main Menu			
=====A=====B=C=D=====E=====F=====G=====H=I=J=====K=====L=M=N=====O=====P=====Q=====R											
1:											
2											
3											
4											
5	Enter a			Enter a		Answer is		Enter a		Enter a	
6	# below			# below		here		# below		# below	
7											
8											
9						=				=	
10											
11											
12						=				=	
13											
14											
15						=				=	
16											
17											
18						=				=	

A1
Type entry or use ⌘ commands

126K Avail.

Drawing the First Set of Boxes

Now you will create the boxes in columns A through H. Later you will clone those boxes in columns J through R. Proceed as follows:

- Put the cursor in cell A4, type a quotation mark to declare that you want to enter a label, and use the underscore character to type a horizontal line in cells A4 through G4.

- Copy row 4 to the clipboard and use the contents of the clipboard to put underscores in rows 7, 10, 13, and 16.
- Now you will draw a vertical line in cells B5 through B18. Put the cursor in cell B5, type a quotation mark to declare that you want to enter a label, type a vertical line character in that cell, and press the Return Key. Then copy the vertical line character from cell B5 into cells B6 through B18. *[Ed: For more information about vertical lines, see the article "How to Add Vertical Lines to a Spreadsheet" in the July 1990 issue of the AppleWorks Forum.]*

- Next, you will copy the vertical line into column D.

If you use AppleWorks 2.1 or earlier, put the cursor in cell B5, issue a Copy Command, indicate that you want to copy "Within worksheet", and use the Down Arrow Key to highlight cells B5 through B18. Then press the Return Key. Put the cursor in cell D5 and once again press the Return Key. Repeat this process to copy the vertical line into columns F, H, and J.

If you use AppleWorks 3.0, you can use the Copy Block

feature to copy the line. Put the cursor in cell B5, issue a Copy Command, and indicate that you want to copy "To clipboard". Then select "Block", highlight cells B5 through B18, and press the Return Key. Put the cursor in cell D5, issue an Apple-C command and select "From clipboard." Finally, copy the line from the clipboard into cells F5, H5, and J5.

My Favorite Template...

8. Put the cursor in cell F9, type a quotation mark, an equals sign, and press the Return Key. Repeat this process in cells F12, F15, and F18.
9. Type the labels "Enter a # below" (you will need to type a quotation mark before the "#" sign) and "Answer is here" in the top row of boxes. Use the Apple-L command to center these labels. Your screen should now look like the example in *Figure 2*.

Now you will create a clone of the completed boxes in the cells to the right of the originals.

10. Put the cursor in cell A4 and issue an Apple-C command. Press the Return Key to select "Within worksheet". Use the Arrow Keys to move the cursor to cell H18 and press the Return Key. (AppleWorks 3.0 users can copy these cells as a "block" to the clipboard. That makes it easy to place a new copy of the boxes if something does not go as expected.) Then put the cursor in cell K4 and press the Return Key. Your screen should now look like the example in *Figure 3*.

The Formulas

Now you will enter the formulas into the template. This version includes arithmetic, geometry, trigonometry, and finance functions, although you can customize the formulas for your own applications.

11. Enter the formula `+A9+E9` into cell G9. This formula computes the sum of two numbers. Then enter the "+" sign as a label in cell C9. (You will need to type a quotation mark before typing the "+".)
12. Enter the formula `+A12-E12` into cell G12. This formula performs simple subtraction. Enter a "-" sign as a label in cell C12.
13. Enter the formula `+A15*B15` into cell G15. This is simple multiplication. Enter an "x" as a label in cell C15.
14. Enter `@IF(E18>0,+A18/E18,0)` into cell G18. This is basic division, with one difference. AppleWorks normally displays the word "ERROR" if you try to divide a number by zero. This formula uses the @IF function to check for a zero in

the divisor and displays a zero instead of the error message when you try to divide by zero.

AppleWorks 3.0 users can substitute two quotation marks for the last zero in the formula. Then cell G18 will remain blank if you try to divide by zero.

15. Enter a "/" to signify division in cell C18.
16. Now use the Apple-L command to center the labels in column C.
17. Enter the formula `+09*(K9/100)` into cell Q9. This is simple percentage work. The example in *Figure 1* shows that 125 percent of 150 equals 187.5.
18. Enter "% of" as a label in cell M9.
19. Enter the formula `+K12*3.14159` into cell Q12. You enter the diameter of the circle in cell K12 and this formula displays the circumference of the circle in cell Q12. AppleWorks 3.0 users can enter the formula `+K12*@PI`.
20. Enter the label "Diameter" into cell K11, the label "x" into cell M12, and the label "Pi" into cell O12. Use the Apple-L command to center the labels in M12 and O12.

The final two formulas only work with AppleWorks 3.0.

21. Enter the formula `@IF(@OR(K15="",K15<0),"",(@RATE(M15/365,-K15,O15)*100))` into cell Q15. This formula uses the @IF and @OR functions to check if K15 is blank or contains a negative number. If either condition is true, the formula leaves cell Q15 blank. If cell K15 contains a positive number, the formula uses the @RATE function to calculate the rate of return of an investment involving one purchase and sale over a known period. We expect to find the rate of return as a percentage value, so the formula multiplies the rate of return by 100.

To compute the rate of return on an investment, you enter the price paid for the property or security in cell K15, the number of days you owned the investment in cell M15, and the selling price in cell Q15. AppleWorks will display the rate of return in cell Q15. This formula con-

Figure 4: On-Screen Instructions

```
File: Calculator          REVIEW/ADD/CHANGE          Escape: Main Menu
=====A====B=C====D====E====F====G====H=I=J====K====L=M==N====O====P====Q====R
20|Instructions to use this "calculator"—
21|
22|Use the arrow keys to navigate from box to box. You can enter numbers
23|in most boxes. Recalculation is automatic. Type any number, press the
24|Return Key and the calculator will display the answer.
25|
26|Watch the lower left-hand corner of the screen. Whenever you see the
27|legend "Protect-V" in that corner of the screen, you can enter a number
28|in the box highlighted at that moment.
29|
30|You cannot damage this template, so try anything. Press the "Esc" key
31|in the upper left-hand corner of the keyboard to leave the calculator.
32|
33|
34|
35|
36|
37|
-----
A40

Type entry or use ⌘ commands                               120K Avail.
```

verts the purchase price (in cell K15) to a negative number because it represents outgoing cash which you entered as a positive value. *[Ed: For more information about this function, see the article entitled "How to Use @NPV and @RATE" in the April 1991 issue of the AppleWorks Forum.]*

22. Enter the labels "Buy Price", "Days", "Sold for", and "Rate/Rtn" in cells K14, M14, O14, and Q14 respectively.
23. Enter the formula `@IF(O18="", "", @SIN(@RAD(O18)))` into cell Q18. The @IF function in the formula leaves cell Q18 blank until you enter a value in O18. Then the formula calculates the sine value of an angle expressed in degrees. The @SIN function takes an argument of radians; so the formula uses the @RAD function to convert the degree measurement to radians.
24. Enter the label "Angle in" in cell K17, "Degrees----->" in cell K18 (use hyphens and the "greater than" symbol to generate the arrow), and "Sine is" in cell Q17.
25. Enter the labels that appear at the top of the template.
26. Put the cursor in cell A20 and enter the instructions for using the template (see Figure 4).

Protect Your Work

27. Put the cursor in cell A1, issue an Apple-L command, select "Block" from the Layout Menu, and protect the entire spreadsheet so nothing can be entered anywhere.
28. Issue additional Apple-L commands and set the protection to "Values Only" for cells A9, A12, A15, A18, E9, E12, E15, E18, K9, K12, K15, M15, O9, O15, and O18.
29. Lock the template. *[Ed: See the article entitled "How to Lock Your Templates" in the May 1991 issue of the AppleWorks Forum.]* Then load a fresh copy onto the desktop

whenever you start AppleWorks.

Now you can issue an Apple-Q command and access your powerful calculator from within AppleWorks.

[Stan Hecker is on the administrative staff at Michigan State University, East Lansing, Michigan, and is a partner in H&H Consulting, a Michigan concern specializing in school district financial and population analysis.]

Jim Carlisle is the founder of the Teachers Idea and Information Exchange, Box 6229, Lincoln, Nebraska 68506; (402) 483-6987, which develops and distributes educational templates for AppleWorks and Microsoft Works.]

[Single issues of NAUG on Disk cost \$10 from NAUG.]

NAUG BBS

Congratulations to David Heyes of Citrus Heights, California, the 65,000th caller to the Electronic Forum, NAUG's AppleWorks Bulletin Board. Mr. Heyes won a one-year extension to his NAUG membership. Call the Electronic Forum for help with AppleWorks or to download templates, fonts, or utility programs. A free service of NAUG. (615) 359-8238.

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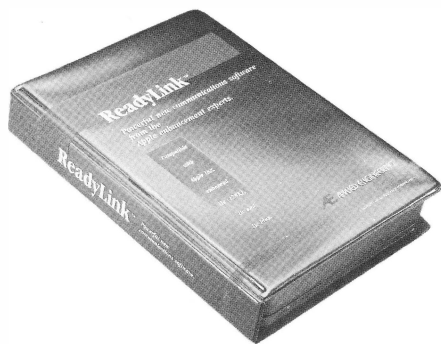
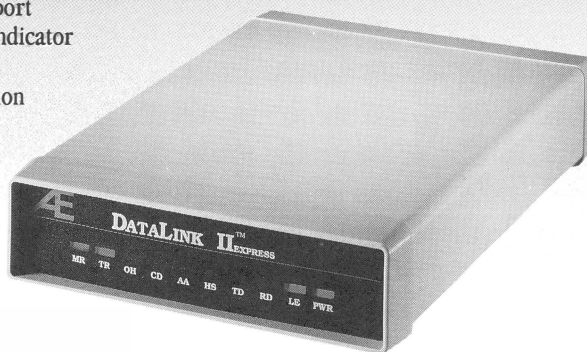
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LockOut: A Program that Protects Your System

by Jeff Bell

Most Apple IIGS owners appreciate the flexibility that the IIGS text and graphic control panels give their system. The control panels make it easy to change the date, display, keyboard configuration, mouse response, and otherwise personalize your computer. *[Ed: You access the text control panel by typing an Apple-Control-Escape. You access the graphic control panel from the Apple Menu that appears under the Finder and most 16-bit applications.]*

But access to these control panels can be a nightmare for teachers who must deal with creative students. These students quickly find that the control panels let them display yellow text on a purple background (or, worse, black text on a black background), disable the mouse, change system dates to those unacceptable to AppleWorks, change the boot device to the RAM disk, and set sound levels so high that your wing of the building empties into the halls thinking there is a fire drill in progress.

LockOut solves these problems by not implementing changes that users make to the control panel settings. Of course, LockOut lets the teacher, system administrator, or computer owner turn off this hidden protection, change the control panel settings, and then re-protect the system.

Compatibility

LockOut runs on any Apple IIGS computer, and hides on your startup disk undetected by users. It locks out changes to the Apple IIGS control panel without affecting the operation of Apple IIe, IIC, or Apple II compatible computers.

LockOut is compatible with AppleWorks, AppleWorks GS, and all the other applications I tested,

including a number of popular word processing and paint programs. It is also compatible with all CDAs and NDAs, and does not implement any control panel changes made by your desk accessories. (Other control panel protection programs disable access to your CDAs and require that you remove all NDAs from every system disk.)

Installation

Installing the new version of LockOut is easy. The program comes on two disks; a bootable disk that includes a stripped-down version of GS/OS and a second disk that includes the Installer and the necessary installation scripts.

Hard disk and fileserver users boot their systems under GS/OS 5.0.4 or later, insert the second of the two LockOut disks, and launch the Installer (see *Figure 1*). Floppy disk users boot their system with the first of the two LockOut disks, insert the second Lock-

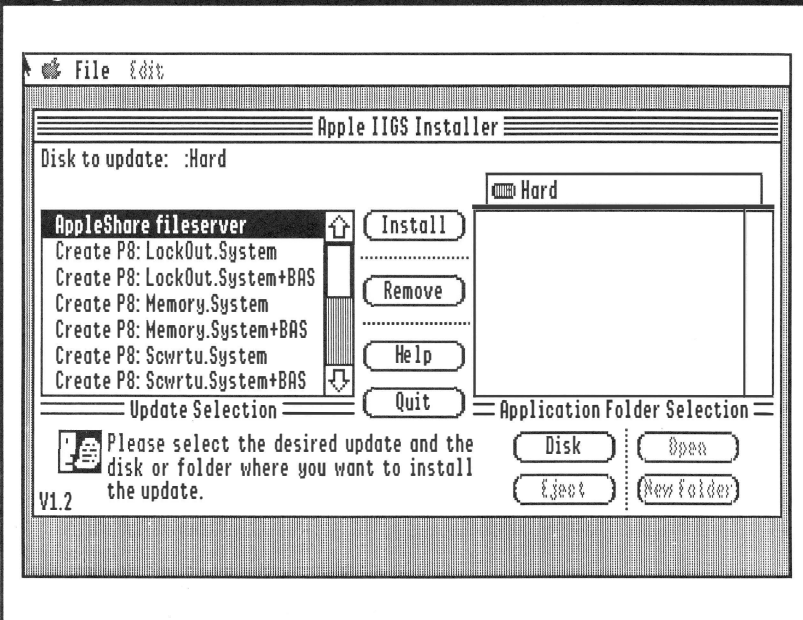
Out disk, launch the Installer, and install LockOut on every bootable disk.

Installation takes less than two minutes on most systems. The on-screen prompts and the LockOut documentation guide you through the process.

The Installer copies LockOut's init into the */SYSTEM/SYSTEM.SETUP folder and lets you install the LockOut Utilities, which you can use to turn protection on and off without rebooting your computer. The Installer can also create ProDOS floppy disks that automatically run LockOut and then run either BASIC.SYSTEM or the next ProDOS .SYSTEM file on the disk.

“ Giving students access to the IIGS control panels can be a nightmare ”

Figure 1: The Lockout Installer



The inclusion of the Installer is a considerable improvement over earlier versions of LockOut which required you to follow a complex procedure to install the program on floppy disks.

LockOut offers multiple installation routines that help you camouflage its operation and makes it difficult for inquisitive users to detect and alter the system.

Working in Different Environments

LockOut's benefits are most apparent in the computer laboratory. Fileserver users can install LockOut on the server or on each workstation's startup floppy and automatically protect all computers on the network. Hard disk users can install LockOut where it hides itself in cryptically named files in the System Folder.

Floppy disk users install LockOut on each of their boot disks; LockOut then automatically loads itself each time you boot the computer. As indicated earlier, LockOut-protected disks also work on Apple IIe, IIfx, and Apple II-compatible computers. That makes it easy to use LockOut-protected disks in a mixed laboratory of Apple IIgs and other Apple II systems.

The LockOut manual recommends that you not install the program on copy-protected floppy

disks, so I did not test that configuration. Instead, the developer suggests that you boot your system from a LockOut-protected fileserver, workstation startup floppy, or hard disk and then launch your copy-protected software. My tests support the developer's assertion that copy-protected software runs correctly when you follow the recommended procedure. However, if a conflict does occur, the utility programs you installed with LockOut let you turn off LockOut, change your control panel settings, and re-protect your system.

Documentation and Support

LockOut 2.0 includes an informative and easy-to-read 40-page manual that describes how to install and use the program and how it operates. Although I found the operational details fascinating, users not concerned with the technical aspects can skip this section and not worry about the internal operations of the product.

John Link, the developer of LockOut, provides technical support through Internet, which you can access through many local bulletin boards or national on-line services (address your questions to jlink@pro-xy.cts.com). Otherwise, you must use regular mail.

Users who encounter problems with LockOut would undoubtedly prefer telephone access to the developer. However, the program's simplicity, easy installation, and clearly written manual suggests that few users will miss the lack of telephone support.

Value

LockOut 2.0 costs \$49.95, which allows unrestricted installation on all computers and file servers in a building. I consider the program an excellent value for even a single computer, and the included site license makes it an exceptional value for schools and organizations that have multiple systems.

LockOut comes with the best guarantee possible; if you are not satisfied, you return the program and the manual for a complete refund.

Software Review...

Conclusion

LockOut is a valuable tool for teachers and others who must share one or more computers. The ability to protect your control panel settings can save both time and effort. And the compatibility of LockOut-protected disks with all your applications and with other Apple II computers makes the program suitable for mixed environments.

LockOut is an outstanding product for users who need this type of protection.

[Jeff Bell teaches computer science and administers the computer lab at Schoolcraft Middle School in Schoolcraft, Michigan.]

[LockOut 2.0 costs \$49.95 from SuperStuff, 3382 Sandra Drive, Kalamazoo, Michigan 49004.

Upgrades from earlier versions of LockOut cost \$24.95.]

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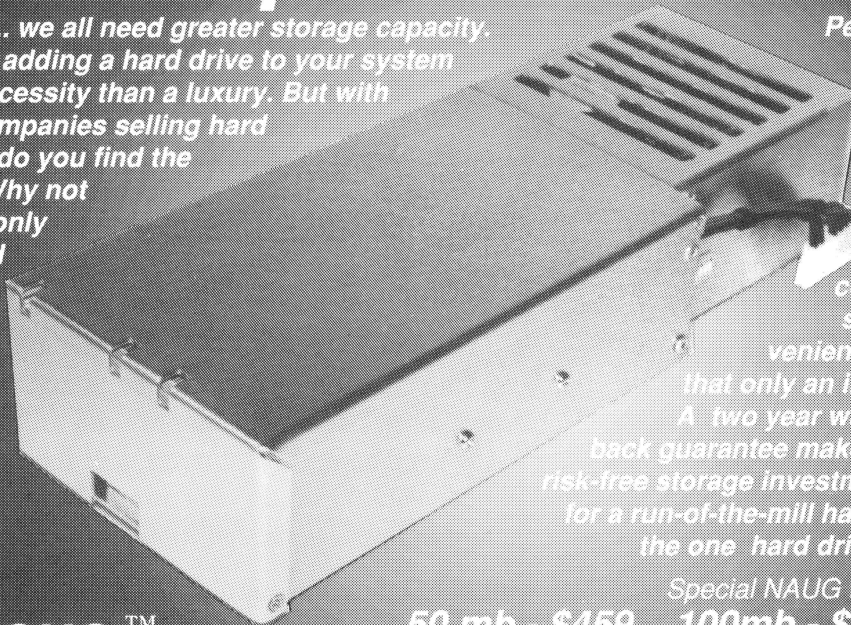
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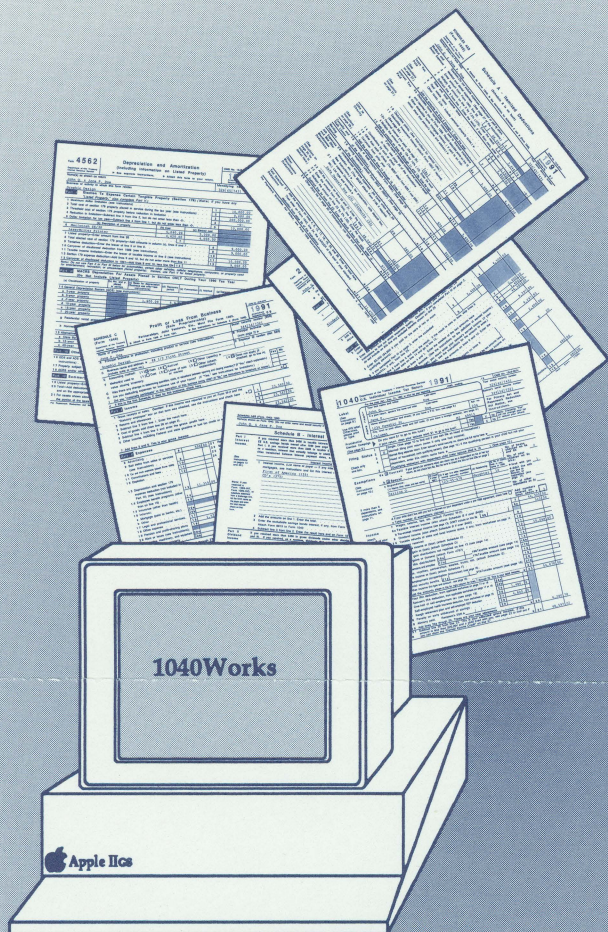
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1040Works costs \$32.95 plus \$3.50 s/h; **NAUG** members receive a \$3 discount. Owners of earlier versions of the program can use the special order form they received in the mail to update to the 1991 templates for \$22.95 plus \$3.50 s/h; the **NAUG** member discount does not apply to this special update price. Also see the special **NAUG** offer for the new 1040Works Tax Planner elsewhere in this issue.

Schedules and Forms

1040Works completes the following Federal Income Tax schedules and forms:

1040	D	SE	2441	8283	8615
A	E	2106	3903	8582	8814
B	F	2119	4562	8582-CR	8829
C	R	2210	6251	8606	

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Two Versions of 1040Works

1040Works is compatible with all versions of AppleWorks (except AppleWorks GS) and runs on any Apple II or Apple II-compatible computer that provides at least a 40K AppleWorks desktop.

1040Works-X combines more tax forms in each template and uses fewer templates to produce all 23 tax forms. Thus, 1040Works-X is faster and even easier to use than standard 1040Works. Order 1040Works-X if you have at least 256K of RAM and AppleWorks 2.0 or later.

Both 1040Works and 1040Works-X complete all 23 forms listed above, and both contain macros that help you enter your data. The 1991 editions also include a run-time version of UltraMacros; you do not need a macro program to use the excellent macros on these disks.

1040Works and 1040Works-X will ship by late January includes complete documentation. Registered users will receive significant discounts on future versions of these products.

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"I want to compliment you on the completeness of the templates and ease of use. I learned how to use some of the features of AppleWorks that I had not used before."

"I learned a number of techniques and tips I can use in my own spreadsheets. For just these alone, the price was well worth it."

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NEW!

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The 1992-1993 Public Domain Catalog is ready. NAUG's new 64-page Public Domain Catalog lists hundreds of templates, fonts, AppleWorks enhancements and utilities that are available from NAUG. These files can dramatically increase your productivity with AppleWorks.

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NAUG Public Domain Catalog

1992 — 1993 Edition
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How to Use the Apple IIe Card Software – Part 1

by Nanette Luoma

Version 2.0 of Apple's new Apple IIe Card Software lets owners of Apple IIe Card-equipped Macintosh LC computers (a) run AppleWorks and other 8-bit programs, (b) establish ProDOS partitions on their Macintosh hard disk, and (c) read and write data files generated by AppleWorks, Publish It!, and other ProDOS applications. [Ed: See page 27 of the September 1991 issue of the **AppleWorks Forum** for a complete description of the features built into this new software.]

Although it is not documented in the manual that comes with the disks, the new Apple IIe Card Software also lets owners of any Macintosh computer (a) establish a ProDOS partition on their hard disk, and (b) read AppleWorks and other ProDOS data directly into MacWrite II, ClarisWorks, and other Macintosh programs that use Claris' Xtend technology.

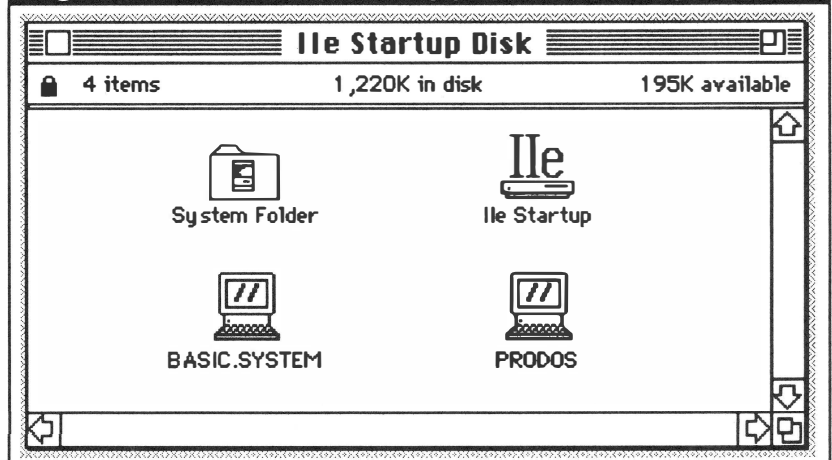
Thus, the new version of the Apple IIe Card Software offers powerful functionality for AppleWorks users who want to transfer data from AppleWorks into popular Claris and Claris-compatible products running on any Macintosh computer.

This is the first of three articles that will describe how to install and use the new software.

What You Get

NAUG ships the Apple IIe Card Software on two high density disks labelled "Apple IIe Card Floppy Disk Startup" and "Apple IIe Hard Disk Installer". (Apple officially named these disks the "Apple IIe Card Startup Disk" and the "Apple IIe Card Installer Disk" respectively. NAUG renamed the disks to help users understand the purpose of each

Figure 1: Contents of Apple IIe Startup



disk.) You can use the disks with any current model Macintosh computer. [Ed: See the sidebar entitled "If You Don't Have a SuperDrive" for information about Macintosh systems that cannot use these disks.]

The "Apple IIe Card Floppy Startup Disk" lets you boot your computer and run the applications from a floppy drive. The "Apple IIe Hard Disk Installer" installs the program on a hard drive and lets you create a ProDOS partition on that drive.

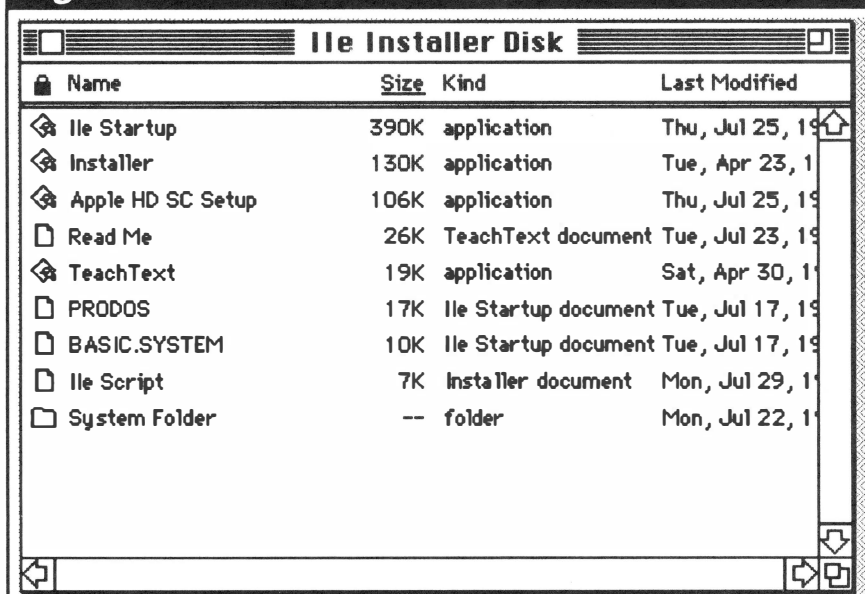
What Is on the Disks

Both disks include the ProDOS File System, an "init" that goes into your System Folder and lets your Macintosh read ProDOS disks.

They also contain three files (Ile Startup, ProDOS, and BASIC.SYSTEM) that only work with an Apple IIe Card installed in a Macintosh LC computer.

The Hard Disk Installer also includes the software necessary to (a) install these files on a Macintosh hard disk, and (b) partition the disk into separate Macintosh and ProDOS volumes. The Installer

Figure 2: Contents of Ile Installer



Name	Size	Kind	Last Modified
Ile Startup	390K	application	Thu, Jul 25, 1991
Installer	130K	application	Tue, Apr 23, 1991
Apple HD SC Setup	106K	application	Thu, Jul 25, 1991
Read Me	26K	TeachText document	Tue, Jul 23, 1991
TeachText	19K	application	Sat, Apr 30, 1991
PRODOS	17K	Ile Startup document	Tue, Jul 17, 1991
BASIC.SYSTEM	10K	Ile Startup document	Tue, Jul 17, 1991
Ile Script	7K	Installer document	Mon, Jul 29, 1991
System Folder	--	folder	Mon, Jul 22, 1991

If You Don't Have a SuperDrive

A SuperDrive is an Apple-brand 3.5-inch floppy disk drive that can read and write high density (1.44 megabyte) Macintosh disks. All current model Macintosh computers ship with SuperDrives.

The change from 800K drives to SuperDrives occurred during the production run of the Macintosh SE computer. Thus, older Macintosh systems cannot read the Apple Ile Card Software which comes on high density disks.

Owners of Macintosh computers not equipped with a SuperDrive can use NAUG's new "Special Apple Ile Card Software Disk" to transfer data directly between AppleWorks and MacWrite and/or ClarisWorks.

NAUG's "Special Disk" is a standard 800K Macintosh disk with a minimum copy of System 6.0.8 and the complete "ProDOS File System" that lets you read ProDOS files directly into MacWrite, ClarisWorks, and other Claris Xtend-compatible Macintosh programs.

The "Special Apple Ile Card Software Disk" is available from NAUG's Public Domain Library for \$6 plus \$2 s/h. Owners of SuperDrive-equipped Macintosh systems should order the standard "Apple Ile Card Software" described in this article, which costs \$12 plus \$2 s/h. Order from: Public Domain Library, NAUG, Box 87453, Canton, Michigan 48187 (313) 454-1115.

disk also includes a Read.Me file with corrections to the manual, important information to help you use the software, and valuable troubleshooting tips.

Getting Started

Start by making a working copy of the original disks, then store the originals.

Next, insert the Hard Disk Installer Disk in a drive and double-click on the Read.Me file. Print the file and highlight the sections that apply to your system.

How you proceed next depends on whether or not you will install the disk on a hard drive.

Floppy Disk Users

Macintosh owners who do not have a hard drive or do not want to install the software on their drive can still use the software. Just boot your system with the Apple Ile Card Floppy Startup Disk and your computer will automatically recognize ProDOS disks you insert in any floppy drive. Double-click on the Ile Startup icon if you want to use the Apple Ile Card in a properly equipped Macintosh LC.

To launch a Macintosh application, just drag the Floppy Startup Disk icon to the trash, insert your program disk, and double-click on the application.

Hard Disk Users

Hard disk owners should install the Ile Card Software on their Macintosh hard disk. That lets you read ProDOS disks and use your Apple Ile Card without rebooting your computer.

Note that the Apple Ile Card Software runs under Macintosh System 6.0.7 or 6.0.8; my tests indicate that the software is unstable under System 7.x.

The Installer Disk includes four sets of files:

ProDOS File System: An init that lets you read ProDOS disks.

Apple Ile Card Software: An application that lets you use an Apple Ile Card in a Macintosh LC.

General Interest...

Apple HD SC Setup: An application that lets you initialize, partition, and test your hard drive.

Installer: An application that installs the ProDOS File System and the Apple IIe Card Software on your hard drive.

Which Do You Use?

If you want to store ProDOS data and/or programs on your hard drive, you should start by using Apple HD SC Setup to reformat your drive and set up a ProDOS partition. You can then store ProDOS data on that partition much as you can on any ProDOS-formatted Apple IIe disk.

Owners of Macintosh LCs equipped with an Apple IIe Card will undoubtedly want to set up a ProDOS partition on their drive. Owners of non-IIe Card-equipped Macintosh systems generally should not establish a ProDOS partition.

The following steps describe how to set up your ProDOS partition. Skip to the section entitled "Using the Installer" if you want to be able to read ProDOS disks but do not need a ProDOS partition.

Partition the Hard Disk

Follow these steps to re-format and partition your hard disk:

1. Make certain that you have at least 2,048K of free space available on your Macintosh drive. You will use that space for the ProDOS partition on the drive.
2. Use the Finder or a backup program to back up your hard drive onto floppy disks or onto another hard drive. This is important because you will lose all data on your hard disk during the partitioning process. (I recommend a backup program, not the Finder; backup programs are faster and can split files that will not fit on one disk.)

Make certain that the backup program you use can restore files to a different size disk. This

How to Transfer Files from a Macintosh

The Apple IIe Card Software described in this article makes it easy to transfer files from AppleWorks into MacWrite, ClarisWorks, and other products that support Claris' Xtend technology. However, the new software only supports one-way transfers – from AppleWorks to a Macintosh.

There are at least two ways to transfer data in the other direction; from a Macintosh into AppleWorks.

If your Macintosh program supports the Xtend technology, you can save your files in AppleWorks format on a Macintosh disk and use Apple File Exchange to transfer the files to a ProDOS disk. Then you can open the AppleWorks file with AppleWorks, AppleWorks GS, Publish-It!, and any other Apple II program that reads AppleWorks files.

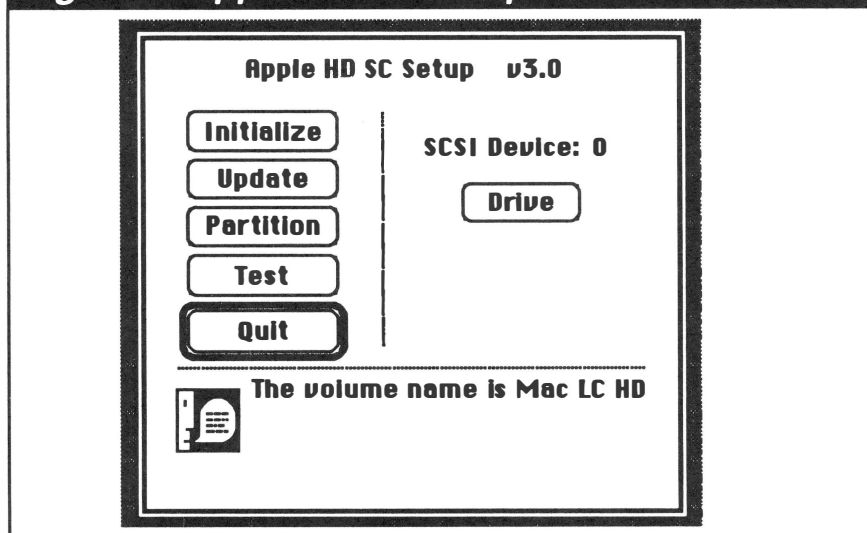
If your Macintosh program does not support Xtend (e.g., Microsoft Works or WordPerfect), or if you are translating to an Apple II program that does not recognize AppleWorks files, you can transfer the data in ASCII format. The articles entitled "How to Transfer AppleWorks Data to Macintosh Computers" and "Transferring AppleWorks and AWGS Files to a Macintosh" in the November 1988 and October 1990 issues of the *AppleWorks Forum* describe the necessary procedures.

process reserves a portion of your disk for ProDOS files and leaves a smaller Macintosh partition available to accept your restored data.

[Ed: NAUG uses Central Point Software's MacTools Backup, which is available both as a stand-alone application and as part of the company's MacTools disk. However, other backup programs serve equally well.]

3. Quit all applications and select "Shut Down" from the Special Menu.
4. Insert the Apple IIe Hard Disk Installer Disk into the internal floppy drive and restart the computer. Your system will boot from the floppy drive.
5. The "IIe Installer Disk" icon will appear in the upper right-hand corner of the screen. Open the disk by double-clicking on the icon. Your screen should look like the example in *Figure 2*.
6. Launch the "Apple HD SC Setup" application by double-clicking on that icon.

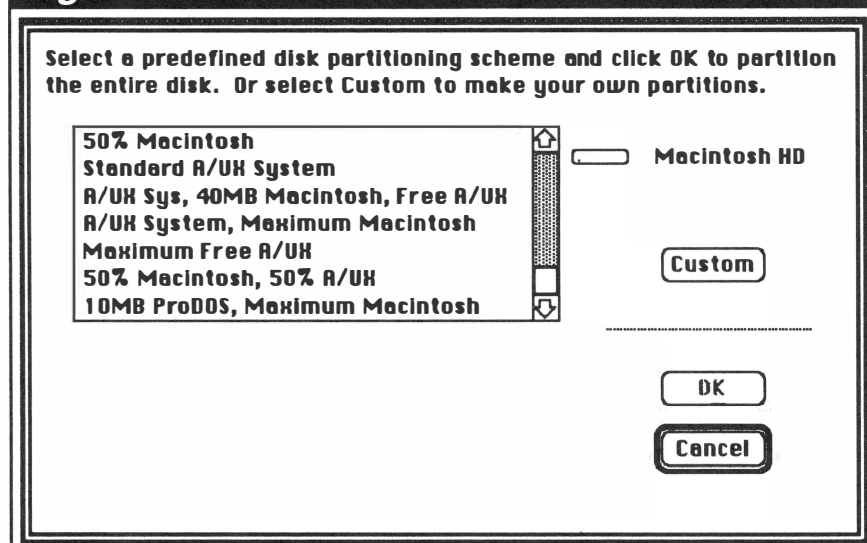
Figure 3: Apple HD SC Setup Screen



7. The dialog box (see *Figure 3*) will display the internal hard disk as the current disk. Click on "Update".
8. Click on "Partition" to display the screen in *Figure 4*.
9. How you proceed now depends on the size of the ProDOS partition you want to establish on your drive. The software provides routines that automatically install a ten megabyte partition on your drive. You can create any other size partition through a series of manual procedures.

Determine the size of the files you want to load onto the ProDOS partition and proceed as follows:

Figure 4: Partition Screen



Ten Megabyte ProDOS Partition:

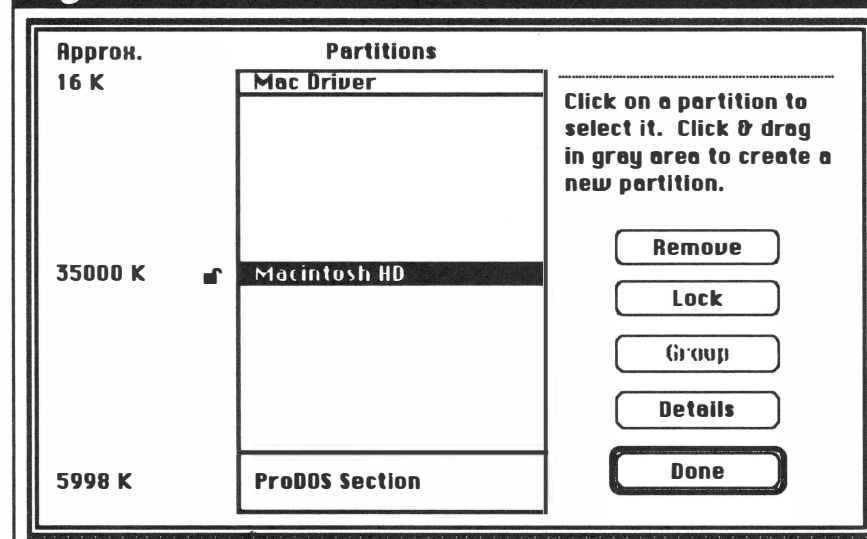
- A. Select "10MB ProDOS, Maximum Macintosh" and click on "OK".
- B. A dialog box will appear asking if you are sure you want to erase your hard disk. Confirm that you have good backups and then click on "OK".
- C. Enter any legal ProDOS name for the ProDOS partition on the drive and press the Return Key..
- D. Click on "Quit".

Other Size ProDOS Partitions:

Other size partitions and multiple ProDOS partitions require a custom installation. Follow these steps:

- A. Click on "Custom" to access the Partition Allocation Screen in *Figure 5*.
- B. Click once in the white area below "Mac Driver".
- C. Click on "Remove" and respond "OK" to the warning.
- D. Now you will create the Macintosh partition. Determine the size of the Macintosh partition by subtracting the size you want for the ProDOS partition from the total size of your

Figure 5: Custom Partition



General Interest...

hard drive. For example, to create a 5 megabyte ProDOS partition on a 40 megabyte drive, you must establish a 35 megabyte Macintosh partition. *[Ed: All figures are approximate because most hard disks provide slightly more space than their rated capacity.]*

Click on the grey area and drag while holding down the mouse button until the number on the left side of the box is close to the size you want for the Macintosh partition (see *Figure 6*). (For example, a 35 megabyte partition contains approximately 35,000K bytes.)

E. Your system will display the dialog box in *Figure 7*. Click on "Macintosh Volume" and enter the number of bytes you want to allocate to the Macintosh volume. In this case, type "35000" and click on "OK".

F. Now you will create the ProDOS partition. Click in the grey area and drag while holding down the mouse button until you define the correct size of the partition. Drag the bar to the bottom of the frame if you only want one ProDOS partition.

Click on "ProDOS Volume" and "OK".

G. Assign a name to this partition by entering any legal ProDOS name in response to the prompt.

H. Repeat steps E and F if you want to create a second ProDOS partition. Make certain that you allocate all the grey space on the screen to partitions.

I. Click on "Done" and then "Quit".

Restore the Contents of the Hard Disk

Now you must restore the contents of your hard disk and reboot your system.

Insert the Installer Disk in the floppy drive and restart your system.

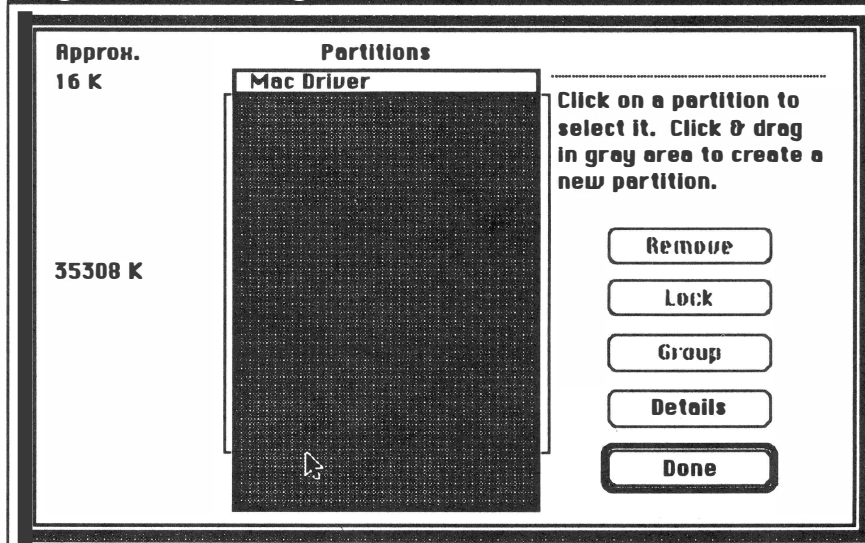
A Conflict with Apple File Exchange

Unfortunately, the ProDOS File System on the new Apple IIe Card Software conflicts with Apple File Exchange, the utility program that lets Macintosh computers read and write ProDOS and MS-DOS disks. Once you install the ProDOS File System, Apple File Exchange no longer recognizes your ProDOS disks as ProDOS format and does not display the ProDOS-to-Mac or Mac-to-ProDOS transfer options. That keeps you from using the Works to Works Transporter to translate AppleWorks files into Microsoft Works format.

To work around this problem, move the ProDOS File System application from the System Folder to the root directory or into any folder on the disk before you launch Apple File Exchange. Then re-boot your computer. Now Apple File Exchange will recognize ProDOS disks and the ProDOS partitions on your hard disk.

When you are done, put the ProDOS File System back into your System Folder and reboot your computer.

Figure 6: Setting Macintosh Partition



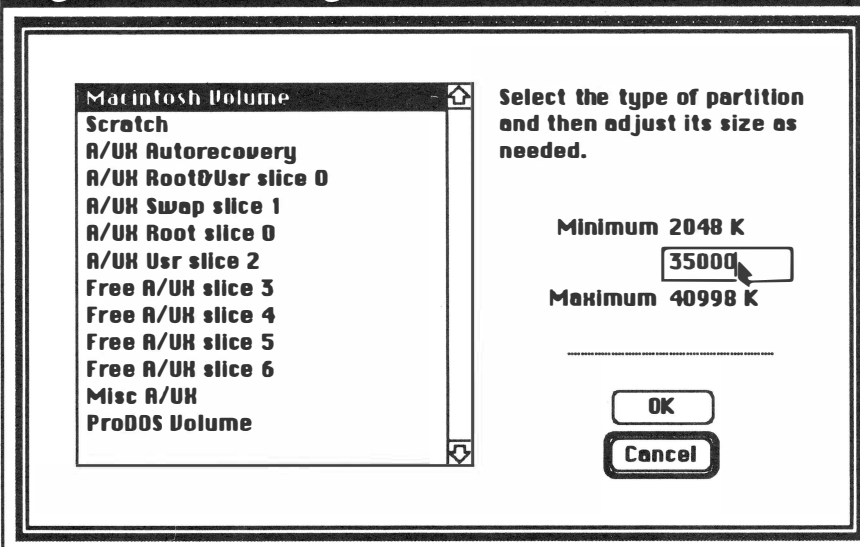
If you used a backup program, insert a floppy disk containing the backup program and follow the directions that came with that program.

If you used the Finder, drag all the files back onto the new partition. Be careful to copy all the files into the correct folders on the disk.

Using the Installer

Now you will install the rest of the software. Follow these steps:

Figure 7: Selecting "Macintosh Partition"



4. Copy your ProDOS programs and data onto the Apple IIe partition by (a) inserting a ProDOS disk in the drive, (b) dragging the disk icon to the IIe partition, and (c) clicking on "OK" when the Finder asks permission to copy the disk into a folder with the disk's name.

No Apple IIe Card: Drag the files PRODOS, BASIC.SYSTEM, and IIe Startup files to the trash and select "Empty Trash" from the Special Menu. That leaves the ProDOS File System in your System Folder so you can read ProDOS disks.

1. Insert the Apple IIe Hard Disk Installer Disk and double-click on the "Installer" file.
2. A dialog box will warn you that the IIe Card Software will not work correctly until you reboot your computer. Click on "OK".
3. A dialog box will show you that the internal drive will receive the software. Click on "Install". That will copy the files PRODOS, BASIC.SYSTEM, and IIe Startup into the root directory on your hard disk. It also copies the file ProDOS File System into the System Folder on your drive.
4. Click on "Quit".
5. Reboot your computer.

Finishing Up

Now you will delete the files you do not need for your system and copy the remaining files into the appropriate folder.

The steps you follow depends on whether or not you have an Apple IIe Card.

Apple IIe Card:

1. Double-click on the ProDOS icon.
2. Issue a \mathbb{N} -N to create a new folder and name the folder "IIe Card".
3. Move the IIe Startup, BASIC.SYSTEM, and PRODOS files into the IIe Card Folder.

Test the installation by inserting an AppleWorks data disk in a floppy drive and see if the disk appears on the Finder desktop.

Conclusion

The new Apple II Card Software represents a significant enhancement to the software shipped with early Apple IIe Cards. The new software lets Apple IIe Card owners take full advantage of their hardware and lets all Macintosh owners mount ProDOS disks on the desktop. Thus, the software is useful to any Macintosh owner who wants to transfer AppleWorks data into MacWrite, ClarisWorks, and any other Macintosh application that uses Claris' Xtend technology.

Next month I will describe how to use the Apple IIe Card Software.

[Nanette Luoma is the Page Layout Specialist for the National AppleWorks Users Group.]

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Will the File Fit?

by Keith Johnson

Have you ever tried to save an AppleWorks file on a disk and encountered the “Insufficient room for your file on this disk” message? It always seems to happen just when you’ve run out of fresh disks.

NAUG member David Harbach experienced this problem once too often, so he asked me to write a macro that would report the size of the current file and how much space was left on a disk.

Checking the size of the current file is relatively easy because AppleWorks 3.0 stores the size of the current file starting at address \$0C6E in memory. UltraMacros can <peekword> this location to determine the size of the file.

Determining the amount of space available on a disk is more challenging because AppleWorks does not keep track of available disk space. So I wrote a machine-language routine that uses ProDOS’ Machine-Language Interface (MLI) to determine this value. I used UltraMacros’ <poke> command to store this program in an unused portion of memory.

This led to a new problem. Your system normally stores ProDOS in the upper 12K of main memory and UltraMacros in the upper 12K of auxiliary memory. When you run a macro, UltraMacros takes control, which means ProDOS is not available, since only one of the two types of memory can be active at any one time.

The solution was to write a machine-language program that switches memory banks, performs its work, stores the results somewhere in lower memory, then switches back to auxiliary memory before returning control to UltraMacros.

How It Works

The macro in *Figure 1* gets the current pathname with the <disk> command and discards everything

but the name of the current disk from the pathname. It stores the resulting name starting at address \$932.

The macro then pokes the machine-language program FREE.BLK (see *Figure 2*) into memory and runs the program. This switches memory banks, gets and stores the information about the current disk in the appropriate area of memory, and returns to the macro.

The macro then retrieves the two pieces of information and displays the results.

Using the Macro

You should add this macro to the word processor file you use to store your macros and recompile your file with the Macro Compiler. Then press <ba-F> whenever you want to know if the current file will fit on the disk. The macro will activate the disk drive. Then the message line at the bottom of the screen will display how much space is left on disk and how much memory is used by the current file. If there is no current file (for instance, if you’re at the Main Menu with no file name displayed in the upper right corner of the screen), the macro will display the size of the first file in your Desktop Index. Press any key to erase the message.

The macro displays a warning message if there is no disk in the drive or if it detects some other problem.

Note that this macro reports the size of the file in memory, not how much space it will need on your disk. AppleWorks files (particularly data base files) require more space on the desktop than they do when stored on disk. The difference is difficult to predict, but you will have ample space on your disk even when it appears that you barely have enough space for a file. You will be safe if you save your work whenever the two numbers begin getting close to each other.

Figure 1: Space Required/Available Macro

```
<ba-F>:<all :                { Define the macro.                                }
disk :                        { Store tvolume name in variable $0.                }
$1 = $0 + "/" :              { Add "/" to end of name.                          }
x = 1 :                       { Set variable that captures the length of the volume name.    }
begin :                      { Loop that reads the volume name.                  }
    x = x + 1 :               { Increase the length variable.                    }
    $9 = mid $1,x,1 :         { Temporarily store the next character in $9.        }
    ifnot $9 = "/" rpt : endif : { If not a "/", repeat the loop.                }
x = x - 1 :                   { Don't count the ending slash.                    }
$1 = left $1,x :              { Extract the volume name.                        }
y = $932 :                    { Set the starting address where you will store the volume name. }
z = 0 :                       { Set the counter to zero.                        }
poke y,x :                    { Store the first character in memory.              }
begin :                      { Begin a loop to store the volume name.            }
    y = y + 1 :               { Increment y so it pokes into the next address.    }
    z = z + 1 :               { Increment counter z.                            }
    $9 = mid $1,z,1 :         { Store the next character in variable $9.        }
    w = asc $9 :              { Store the ASCII value of the character.          }
    poke y,w :                { Poke that value into the next address.            }
    if x > z rpt : endif :    { Repeat the loop if not done.                }
a = $900 :                    { Starting address to store FREE.BLK.              }
poke a,$48 :                  { START; Save accumulator.                        }
poke a+1,$a9 : poke a+2,0 :    }
poke a+3,$8d : poke a+4,8 : poke a+5,$c0 : { ALTZP off. Switch banks.                }
poke a+6,$20 : poke a+7,0 : poke a+8,$bf : { Start of MLI command. Run MLI interpreter.    }
poke a+9,$c4 :                { GET_FILE_INFO command code. Tell ProDOS which command you want. }
poke a+10,$20 : poke a+11,9 : { Parm table address. Tell ProDOS where to look for parameters. }
poke a+12,$8d : poke a+13,$15 : poke a+14,9 : { STA ERRCODE. Save error code.                }
poke a+15,$8d : poke a+16,9 : poke a+17,$c0 : { ALTZP on. Switch memory banks.                }
poke a+18,$68 :               { Restore accumulator.                          }
poke a+19,$60 :               { RTS. Return to macro.                          }
poke a+32,$a :                { Parm table has ten parms.                      }
poke a+33,$32 : poke a+34,9 : { Pathname address pointer. Tell ProDOS where to look for disk name. }
jsr $900 :                    { Run the FREE.BLK subroutine starting in address $900.    }
x = peek $915 :               { Check error code.                              }
ifnot x = 0 :                  { If there is an error code...                    }
$1 = 'Problems! Check drive, and try again.' : { ...store this message in $1...    }
msg ' ' + $1 :                { ...and display the message.                    }
k = key :                     { Wait for the user to press any key...            }
msg "" : stop                  { ...clear the message and stop the macro.          }
endif :                       { If there is no error message...                }
u = peekword $928 :           { Store the number of blocks used on disk in variable u.    }
s = peekword $925 :           { Store the volume size in blocks in variable s.        }
f = s - u : f = f / 2 :       { Calculate the amount of free space in k.            }
display 0 :                   { Turn off the display.                          }
oa-Q : rtn :                  { Update the file sizes.                        }
display 1 :                   { Turn on the display.                          }
c = peekword $0c6e :           { Store the size of the current file (in k) in variable c.    }
$9 = "Current file: " + str$ c + "k; left on disk: " + str$ f + "k. " :
    { Create the message including variables c and f.                            }
msg ' ' + $9 :                { Display the message.                    }
k = key :                     { Wait for a keypress...                          }
msg ">!" :                    { ...and delete the message.                    }
```

Figure 2: FREE.BLK Machine-Language Program

```

0900: 48          START   PHA           ;Save accum.
0901: A9 00          LDA     0
0903: 8D 08 C0       STA     C008       ;ALTZP off
0906: 20 00 BF       GETINFO JSR     MLI       ;Call MLI
0909: C4            DFB     C4         ;GET_FILE_INFO command
090A: 20 09          DA      PARS      ;Parm table address
090C: 8D 15 09       STA     ERRCODE    ;Store in ERRCODE
090F: 8D 09 C0       STA     C009       ;ALTZP on
0912: 68            PLA              ;Restore accum.
0913: 60            RTS              ;Return to macro
0915:             ERRCODE DFB     00       ;Error code
0920: 0A            PARS      DFB     0A       ;10 parameters
0921: 30 09          DA      PNAME      ;Pathname address
             DFB     00         ;Access code
             DFB     00         ;Filetype code
             DFW     0000        ;Volume size <--
             DFB     00         ;Stor. type code
             DFW     0000        ;Blocks used <--
             DFW     0000        ;Mod. date
             DFW     0000        ;Mod. time
             DFW     0000        ;Creation date
             DFW     0000        ;Creation time
0932:             PNAME      DFW     0000        ;Start of pathname
             ;(filled in by macro)

```

FREE.BLK uses a standard ProDOS MLI command, but will be confusing if you never used those commands. For more information, consult a reference on ProDOS programming such as *Apple ProDOS: Advanced Features for Programmers* by Gary B. Little.

The table of parameters (“parm table”) for this command starts at \$920, but the program ignores most of the parameters returned by the command; only the “volume size” and “blocks used” parameters are of interest here.

GET_FILE_INFO needs a pathname to know where to look for information. The macro stores the name starting at \$932 before

Technical Details

I stored the machine-language program in page 9 of memory, starting at address \$900. This is a safe place to put temporary programs in AppleWorks, since no permanent AppleWorks routines are stored there.

The macro checks the root directory of the current disk to determine the available space on the disk.

The macro displays space in kilobytes; you can change the macro to display blocks if you prefer.

The macro reads the current pathname, then steps through the name, one character at a time, until it reaches its first “/”. The result is the name of the current volume. To ensure that there will be at least one “/”, the macro first adds a slash to the end of the pathname.

I named the machine-language program FREE.BLK. The ProDOS routine GET_FILE_INFO in FREE.BLK returns a zero if there are no errors. Otherwise, it returns any error code in the accumulator. The macro does not display the error code since most of us don’t have those memorized. *[Ed: You could display a text message describing the error, but that would add significant length and complexity to this macro.]*

running FREE.BLK.

The macro turns off the display and issues an <0a-Q> and a Return before peeking \$C6E. That updates the value in \$C6E which contains the current file size, but is probably out of date.

The macro works whether or not you save the accumulator, but I saved the accumulator just to play it safe.

My thanks to Mr. Harbach for posing this problem. As so often happens, I learned a good deal about AppleWorks and my computer system as I wrote this macro.

[Keith Johnson is Associate Director of the Fleischmann Planetarium at the University of Nevada.]

[A working copy of the “Space Required/Available Macro” appears on this month’s issue of NAUG on Disk. Single issues of NAUG on Disk cost \$10 from NAUG.]

Two Line Labels with TimeOut Graph

by Stan Granot Duncan

TimeOut Graph is an AppleWorks enhancement that produces attractive graphic displays of your spreadsheet data.

Although it is not documented in the manual, Graph lets you put two rows of labels under the X-axis in line, bar, stacked bar, area, and hi-lo graphs (Figure 1 depicts a line graph with two rows of labels under the X-axis).

To use Graph, you store all data, including the X-axis labels, in spreadsheet cells. The trick to generating two-line labels is to enter the text

Figure 1: Sample Graph

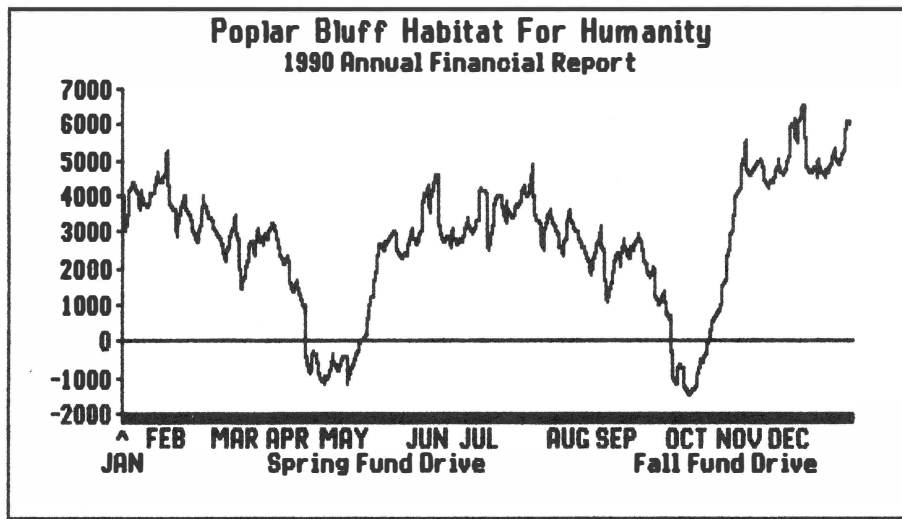


Figure 2: Sample Data

==A=====B=====C=====D=====E=====F=====G=====H=====							
01							
02	HABITAT FOR HUMANITY						
03					Dates for		
04	Date	No.	To/For	Debits	Donations	Balance	GRAPH
05	-----						
06	BEGINNING BALANCE					4000.00	^ JAN
07	Jan 6	219	Director Salary	950.00		3050.00	
08	Jan 3		NLCCU		250.00	3300.00	
09	Jan 3		Mona Smith		5.00	3485.00	
10	Jan		Amir Jones		5.00	3585.00	
11	Jan		Arley White		5.00	3585.00	
12	Jan		Arley White		5.00	3585.00	
13	Jan		Arley White		5.00	3585.00	
14	Jan		Arley White		5.00	3585.00	
15	Jan		Arley White		5.00	3585.00	
16	Jan		Arley White		5.00	3585.00	
17	Jan		Arley White		5.00	3585.00	
18	Jan		Arley White		5.00	3585.00	
19	Jan		Arley White		5.00	3585.00	
20	Jan		Arley White		5.00	3585.00	
21	Jan		Arley White		5.00	3585.00	
22	Jan		Arley White		5.00	3585.00	
23	Jan		Arley White		5.00	3585.00	
24	Jan		Arley White		5.00	3585.00	
25	Jan		Arley White		5.00	3585.00	
26	Jan		Arley White		5.00	3585.00	
27	Jan		Arley White		5.00	3585.00	
28	Jan		Arley White		5.00	3585.00	
29	Jan		Arley White		5.00	3585.00	
30	Jan		Arley White		5.00	3585.00	
31	Jan		Arley White		5.00	3585.00	
32	Jan		Arley White		5.00	3585.00	
33	Jan		Arley White		5.00	3585.00	
34	Jan		Arley White		5.00	3585.00	
35	Jan		Arley White		5.00	3585.00	
36	Jan		Arley White		5.00	3585.00	
37	Jan		Arley White		5.00	3585.00	
38	Jan		Arley White		5.00	3585.00	
39	Jan		Arley White		5.00	3585.00	
40	Jan		Arley White		5.00	3585.00	
41	Jan		Arley White		5.00	3585.00	
42	Jan		Arley White		5.00	3585.00	
43	Jan		Arley White		5.00	3585.00	
44	Jan		Arley White		5.00	3585.00	
45	Jan		Arley White		5.00	3585.00	
46	Jan		Arley White		5.00	3585.00	
47	Jan		Arley White		5.00	3585.00	
48	Jan		Arley White		5.00	3585.00	
49	Jan		Arley White		5.00	3585.00	
50	Jan		Arley White		5.00	3585.00	
51	Jan		Arley White		5.00	3585.00	
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99	Jan		Arley White		5.00	3585.00	
100	Jan		Arley White		5.00	3585.00	

Quick Tip...

for the first line of the label, then enter a vertical bar (|) followed by the text for the second line of the label.

For example, examine *Figure 2* and you will see that I created the caret over "JAN" at the left edge of the X-axis by entering "\JAN" as the X-axis data in column G of the spreadsheet.

This technique lets you fit more labels into your graph. For example, X-data entries of "JAN", "\FEB", "MAR", "\APR", and so forth will put the abbreviations of each month on alternate lines.

You can insert spaces to "slide" the second line of the label to the left or right. For example: "\ JAN" will print the abbreviation for January below and to the right of the caret mark; like this:

^
JAN

You can slide the label to the left by inserting spaces after the text. Since Graph automatically centers each label, every two spaces you type will move the label one space.

There is one problem with this technique; the second set of labels appears in the row normally used for the X-axis title. Thus, if you create two rows of labels and enter an X-axis title, the two will overprint and will not produce an acceptable graph.

[Stan Granot Duncan is a minister and freelance writer living in Poplar Bluff, Missouri.]

[Ed: A comprehensive review of TimeOut Graph appeared in the April 1988 issue of the AppleWorks Forum. The article entitled "How to Display Dates with TimeOut Graph" (in the April 1991 issue of the AppleWorks Forum) describes other ways to control X-axis data.]



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New Disks in NAUG's Library

Barrows Utilities Disk

The NAUG Public Domain Library now includes the Barrows Utilities Disk, a collection of macros and TimeOut applications that add useful functionality to AppleWorks. The files on this disk include:

DataLink: Links a word processor document to a data base file. That lets you link text entries with records in a data base. You can use DataLink to store descriptive comments and other information not easily incorporated in AppleWorks data base records.

DiskEdit: Quickly removes files from the desktop.

MathCalc: Lets you perform arithmetic calculations within the AppleWorks word processor. MathCalc accepts any computations or formulas that will fit in a single spreadsheet cell.

TextBuild: Makes it easy to build an AppleWorks word processor document from segments of other documents. The author uses TextBuild to create new macro sets from existing macros, but TextBuild also makes it easy to create tests and letters from different boilerplate paragraphs.

ViewPunc: Scrolls through a document and stops at every instance of a punctuation mark that you specify.

FileKill: Quickly deletes any file you specify from both your desktop and disk.

The Barrows Utilities Disk requires a TimeOut-enhanced copy of AppleWorks 3.0. Our thanks to Roy Barrows of Sharon, Connecticut for submitting his utilities to the NAUG Library.

Font Index Disk

The NAUG Public Domain Library now includes the Font Index Disk. The AppleWorks data base file on this disk lists the name, size, and disk number of every font distributed by NAUG. This disk makes it easy to locate the fonts you want to use in your TimeOut SuperFonts, Publish It!, and AppleWorks GS documents.

The Font Index Disk is compatible with all versions of AppleWorks running on any Apple II or Apple II-compatible computer.

Our thanks to Alan Plato of Baywater, Victoria, Australia for developing this data base file and contributing his work to the NAUG Public Domain Library.

Macintosh System Disks

The NAUG Public Domain Library now includes the latest versions of Apple Computer's operating systems for the Macintosh.

System 7.0.1 includes a faster version of Apple's Standard Apple Numeric Environment (SANE), and improves the performance of many Macintosh applications when compared to the same application running under System 7.0.

System 7.0.1 comes on eight high density Macintosh disks, one of which includes a HyperCard stack (requires HyperCard 1.2.2 or later) that describes how to install the software. System 7.0.1 costs \$29 plus \$2 s/h.

NAUG's Public Domain Library also includes System 6.0.8, the latest release of System 6 for the Macintosh. NAUG recommends System 6.0.8 for Macintosh systems equipped with two megabytes or less of RAM. System 6.0.8 comes on four 800K disks and costs \$20 plus \$2 s/h from NAUG.

NAUG's licensing agreement with Apple limits our distribution of system software to NAUG members; include your NAUG membership number with your order. You can boot your Macintosh and select "About the Finder..." from the Apple Menu to determine which system you presently run on your Macintosh.

Patched ProDOS Disk

Current versions of ProDOS do not work correctly with slot-based clock cards installed in Apple IIe, II+, and IIc computers. The enhanced version of ProDOS 1.9 on this disk fixes this problem and works

Public Domain Update...

with these slot-based cards. Additional information about this disk appears in the Letters to NAUG section in this issue of the *AppleWorks Forum*.

TotalControl Demo Disk

NAUG's Public Domain Library now includes a demonstration copy of TotalControl 2.0, an AppleWorks enhancement that adds useful power and features to AppleWorks 3.0's data base module. (A description of TotalControl appears in the Letters to NAUG section of this issue of the *AppleWorks Forum*.)

The TotalControl Demo Disk includes the necessary task files, a sample data base, and complete step-by-step directions for installing and running the demonstration. Note that this is a demonstration disk, not a complete implementation of TotalControl.

TotalControl normally costs \$60 plus \$3 s/h. However, NAUG members who enclose the Demonstration Disk with their order can buy TotalControl directly from JEM Software for \$47 plus \$3 s/h. Complete ordering information appears on the disk.

TWGS Reporter

Owners of Applied Engineering TransWarp GS cards should consider John Link's TWGS Reporter, an Apple IIGS Control Panel Device (CDEV) that helps TransWarp GS (TWGS) users learn about and control the operation of the TWGS card. A complete description of the TWGS Reporter appears on page 27 of the July 1991 issue of the *AppleWorks Forum*.

NAUG is now shipping version 1.2 of the TWGS Reporter. The new version is compatible with GS/OS 5.x and 6.x and includes BASIC ERRORS, a CDA that provides descriptive information about the error codes generated by AppleSoft BASIC.

The TWGS Reporter, which is available only on a 3.5-inch disk, requires an Apple IIGS computer equipped with a TransWarp GS card and running GS/OS 5.0.3 or later. The disk costs \$6 plus \$2 s/h from NAUG.

How to Get Disks

Order from Public Domain Library, NAUG, Box 87453, Canton, Michigan 48187; (313) 454-1115.

NAUG accepts Visa and MasterCard. All NAUG disks (except system disks provided by Apple Computer) are also available for downloading from NAUG's electronic bulletin board (the Electronic Forum), and from the NAUG areas on CompuServe, America Online, and GENie.

Electronic Index Disk Update

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Date: Feb 92

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AppleWorks Add-Ons • 5 • How to Choose Your Interface Card • Griffith, Garry • AppleWorks; RC Systems; Slotbuster II; DoubleTalk; speech synthesizer; blind

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Help with the AppleWorks Modules

by Nanette Luoma

How to Use this List

To the left of each volunteer's name are numbers indicating the AppleWorks modules the consultant supports. Volunteers are listed alphabetically by state.

- | | |
|--------------------|-------------------------|
| 1 = Word Processor | 4 = Integrating modules |
| 2 = Data Base | 5 = Mail Merge |
| 3 = Spreadsheet | 6 = AppleWorks Network |

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